

Snails

Craig Milan Jack

20th June



Outline

- 1 Introduction
- 2 The Game
 - Game Background
 - Aesthetics
- 3 Group Management
- 4 Implementation
 - Client
 - Server
- 5 Conclusion
 - Possible Extensions
 - Reflection

Introduction

This is a game about giant evil snails and ghosts with guns wearing magical hats.

It is a turn-based game, based around defending an objective; in this case, the ghosts' house.

Outline

- 1 Introduction
- 2 The Game
 - Game Background
 - Aesthetics
- 3 Group Management
- 4 Implementation
 - Client
 - Server
- 5 Conclusion
 - Possible Extensions
 - Reflection

Background Story

Players are ghosts, in a haunted house which is under attack from evil giant snails.

Ghosts must wear their magic hats at all times to 'live'. The hats magically allow them to interact with the physical world (hold guns, ammo, etc), which also means that the ghosts cannot pass through walls. The hats also magically tie the ghosts to the house - they must haunt the same place forever.

The snails are slightly magical, and are the only things that can kill the ghosts.



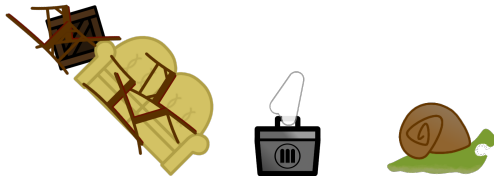
Game Rules

- Ghosts may chose one action to do per turn:
 - Move
 - Shoot
 - Reload
 - Pick up or drop the ammo box
 - Create or fix a barricade
 - Destroy a barricade

Game Rules

- Players have limited ammo, and may not shoot when they have none left
- Players carrying the ammo box may only either move or drop the ammo box on their turn
- Players may not reload from a carried ammo box
- Players may not create or repair a barricade when there are snails in the adjacent room
- After each player has had their turn, snails will either chose to chase the nearest player, or move randomly
- Ghosts will die when in a room with any number of snails

Art and Animation



Various graphics created for the game

- Art - GIMP
- Animation - JavaScript/paper.js
 - (see Client Implementation for optimisations)




Paper.js

User Interface

Snails

"The best game of 2012" -- anonymous



Player Name:

☒ Create a Game ☐ Join a Game

Main screen

User Interface

Snails

"The best game of 2012" -- anonymous

Available games:

None. Why don't you [create one](#)?

Currently in Jack's game:

- Jack
- Milan

Please wait for the game master to start the game.

Joining a game

User Interface

Snails

"The best game of 2012" -- anonymous

List of Players:

- Milan
- Jack
- Craig

✓ Start the Game

Creating a new game

Outline

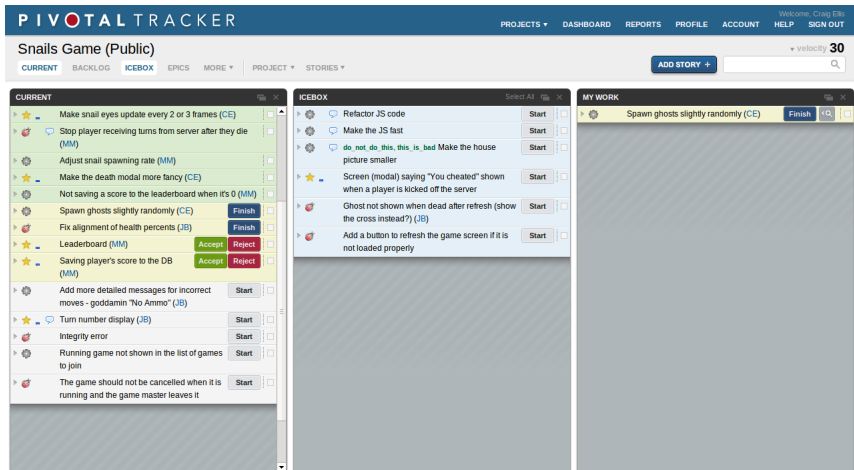
- 1 Introduction
- 2 The Game
 - Game Background
 - Aesthetics
- 3 Group Management
- 4 Implementation
 - Client
 - Server
- 5 Conclusion
 - Possible Extensions
 - Reflection

Group Responsibilities

- Milan: Website layout, server side code.
- Jack: Client side game representation, game ideas/rules development, animation
- Craig: Artwork, animation, game ideas/rules development

Pivotal Tracker

Tool for project management and collaboration.



Pivotal Tracker main screen

Pivotal Tracker

The screenshot shows the 'ICEBOX' window in Pivotal Tracker. The title bar says 'ICEBOX' and 'Select All'. The main form is for creating a new story. The title is 'Fix the leaderboard button on the game over modal'. Below the title are fields for 'ID', 'More', 'Save', and 'Cancel'. The 'STORY TYPE' field has icons for 'Star', 'Bug', 'Feature', and 'Task'. The 'POINTS' field has icons for '1', '2', '3', '4', and '5'. The 'REQUESTER' field is 'Craig Ellis'. The 'OWNER' field is 'none'. A dropdown menu is open for the 'OWNER' field, showing options: 'none', 'Craig Ellis', 'Jack Bracewell', and 'Milan Misak'. The 'DESCRIPTION' field is empty. The 'LABELS' field has a button 'Add a label'. The 'TASKS' field has a button 'Add a task'. The 'ACTIVITY' field has a button 'Add a comment'. The 'ACTIVITY' field also has a 'cancel' button and an 'Add' button. At the bottom are 'Save' and 'Cancel' buttons.

Creating a new story

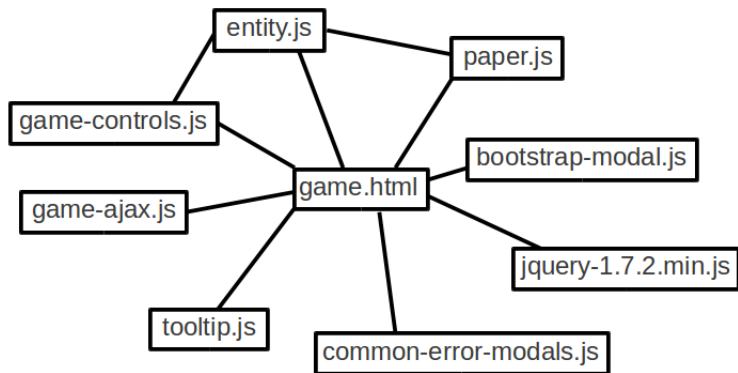
Outline

- 1 Introduction
- 2 The Game
 - Game Background
 - Aesthetics
- 3 Group Management
- 4 **Implementation**
 - Client
 - Server
- 5 Conclusion
 - Possible Extensions
 - Reflection

Javascript

- Only client side script supported by all browsers
- More stable than using plugins
- HTML5 graphics libraries available (we used paper.js)

JavaScript/HTML5 interaction



game.html structure

HTML5

- Technology for the future
- No need to install plugins with modern browsers
- Faster, less likely to crash than plugins



Other useful things

- jQuery
- Twitter Bootstrap
- 960.gs

Graphics Optimisation



- Render eye movement every 3 frames
- Cache snails as symbols
- Movement calm down

Backend Overview



Client/Server interaction

Django

Web framework for Python

- Powerful ORM (object relational mapping)
- Template system
- Rapid development

The Django logo, featuring the word "django" in a bold, lowercase, sans-serif font. The "d" is a dark green color, while the rest of the letters are black.

Heroku

Webhosting solution

- Supports Python/Django + many other frameworks, unlike DoC...
- Easy deployment – just push to a git repository
- Free plan available



Xeround

Database-as-a-service – MySQL

Some say that an external DB is faster than Heroku's own PostgreSQL



Snail AI

- Searching for ghosts: breadth-first search limited to depth of 5
- Random moves from time to time
- Caching of best actions for use by other snails in the same room

Outline

- 1 Introduction
- 2 The Game
 - Game Background
 - Aesthetics
- 3 Group Management
- 4 Implementation
 - Client
 - Server
- 5 Conclusion
 - Possible Extensions
 - Reflection

Possible Extensions

- Chat Feature
- Sound Effects
- Animations for barricade destruction
- Implement snails scaling the walls of the house and entering through the windows

Conclusion

We are glad to have chosen languages we were less familiar with; it has been a worthwhile learning experience

Discovering Pivotal Tracker earlier could have improved team co-ordination from the start

In retrospect, it might have been better to save time by not creating all the artwork ourselves

Thank you for listening

Any questions?